

Use ChatGPT to build a web-based system that can answer questions about a website

Setup Environment:

1) Before setup a virtual environment, install python3.10-venv package

\$ sudo apt install python3.10-venv

```
zimingwang@DESKTOP-BVCGHMH: ~  
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.90.1-microsoft-standard-WSL2 x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s  
  just raised the bar for easy, resilient and secure K8s cluster deployment.  
  
  https://ubuntu.com/engage/secure-kubernetes-at-the-edge  
  
This message is shown once a day. To disable it please create the  
/home/zimingwang/.hushlogin file.  
zimingwang@DESKTOP-BVCGHMH:~$ sudo apt install python3.10-venv  
[sudo] password for zimingwang:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
python3.10-venv is already the newest version (3.10.12-1~22.04.2).  
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.
```

2) Create virtual environment and activate

\$ python -m venv env

\$ source env/bin/activate

```
zimingwang@DESKTOP-BVCGHMH:~$ python3 -m venv env  
zimingwang@DESKTOP-BVCGHMH:~$ source env/bin/activate  
(env) zimingwang@DESKTOP-BVCGHMH:~$
```

3) Install all requirement packages in requirements.txt

\$ pip install -r requirements.txt

\$ pip show setuptools

\$ pip3 install --upgrade pip setuptools

```
zimingwang@DESKTOP-BVCGHMH: ~  
This message is shown once a day. To disable it please create the  
/home/zimingwang/.hushlogin file.  
zimingwang@DESKTOP-BVCGHMH:~$ sudo apt install python3.10-venv  
[sudo] password for zimingwang:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
python3.10-venv is already the newest version (3.10.12-1~22.04.2).  
0 upgraded, 0 newly installed, 0 to remove and 48 not upgraded.  
zimingwang@DESKTOP-BVCGHMH:~$ python -m venv env  
Command 'python' not found, did you mean:  
  command 'python3' from deb python3  
  command 'python' from deb python-is-python3  
zimingwang@DESKTOP-BVCGHMH:~$ python3 -m venv env  
zimingwang@DESKTOP-BVCGHMH:~$ source env/bin/activate  
(env) zimingwang@DESKTOP-BVCGHMH:~$ pip install -r requirements.txt  
(env) zimingwang@DESKTOP-BVCGHMH:~$ pip install -r requirements.txt  
(env) zimingwang@DESKTOP-BVCGHMH:~$ pip show setuptools  
Name: setuptools  
Version: 59.6.0  
Summary: Easily download, build, install, upgrade, and uninstall Python packages  
Home-page: https://github.com/pypa/setuptools  
Author: Python Packaging Authority  
Author-email: distutils-sig@python.org  
License: UNKNOWN  
Location: /home/zimingwang/env/lib/python3.10/site-packages  
Requires:  
Required-by:  
(env) zimingwang@DESKTOP-BVCGHMH:~$
```

4) Add OPENAI_API_KEY as environment variables

```
$ export OPENAI_API_KEY=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

Process:

1) Crawl data from website

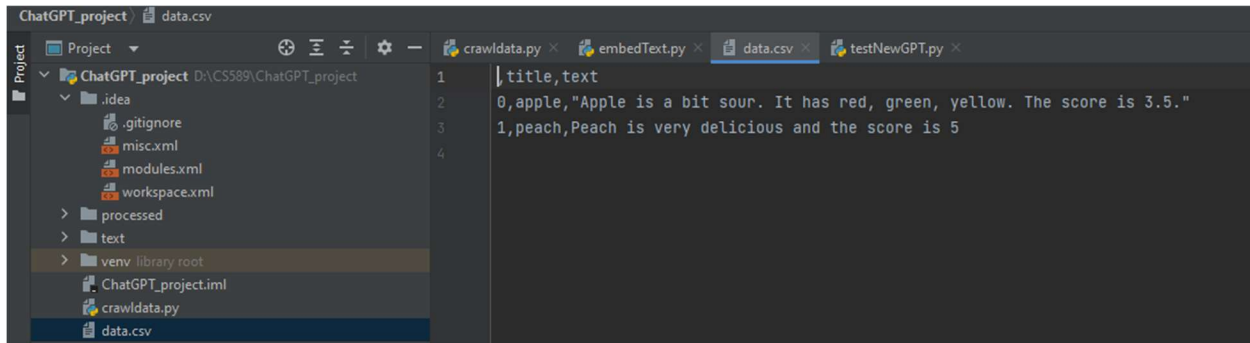
```
$ python crawldata.py
```

```
C:\Program Files\WindowsApps\PythonSoftwareFoundation.Python.3.11_3.11.1520.0_x64__qbz5n2kfra8p0\python3.11.exe  
https://openai.com/  
https://openai.com/dall-e-3  
https://openai.com/dall-e-3#content  
https://openai.com/pricing  
https://openai.com/contact-sales
```

→ Will generated a Processed folder with scraped.csv file saves the crawled data.

2) Embedded the crawled data to ChatGPT engine

\$ python embedText.py



The screenshot shows an IDE window titled 'ChatGPT_project' with a file explorer on the left and a code editor on the right. The file explorer shows a project structure with files like '.gitignore', 'misc.xml', 'modules.xml', 'workspace.xml', 'processed', 'text', 'venv library root', 'ChatGPT_project.iml', 'crawldata.py', and 'data.csv'. The code editor shows the content of 'data.csv' with the following text:

```
1 |title,text
2 |0,apple,"Apple is a bit sour. It has red, green, yellow. The score is 3.5."
3 |1,peach,Peach is very delicious and the score is 5
4 |
```

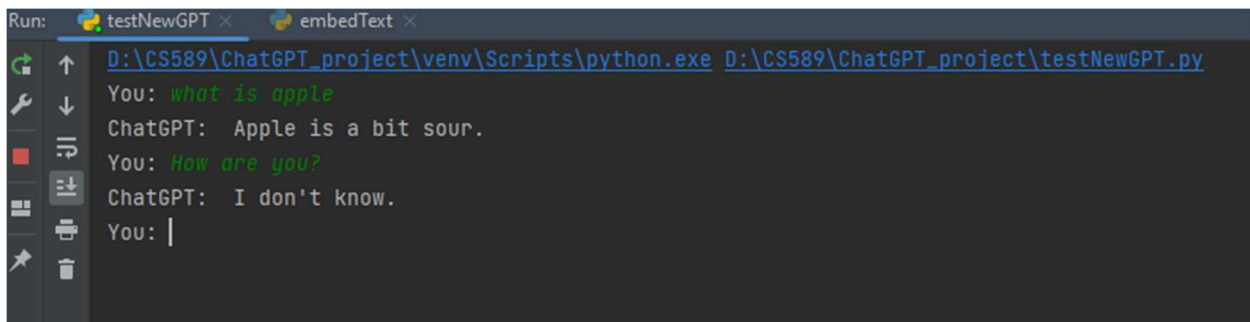
→ The model we use from OpenAI is text-embedding-ada-002 which is not free.

→ To continue without adding a payment method and minimize the cost within the \$18 grant, I used a really simple data.csv file as crawled data.

3) Test the new ChatGPT embedded with information from predefined website.

The model we use from OpenAI is text-davinci-003

\$ python testNewGPT.py



The screenshot shows a terminal window with the command prompt 'Run:' and the command 'python testNewGPT.py'. The output of the command is as follows:

```
Run: testNewGPT.py
D:\CS589\ChatGPT_project\venv\Scripts\python.exe D:\CS589\ChatGPT_project\testNewGPT.py
You: what is apple
ChatGPT: Apple is a bit sour.
You: How are you?
ChatGPT: I don't know.
You: |
```